ABSTRACT

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Evaluation of the activity of potentional antimycotic substances through the use of microdilution broth method IV

Diploma thesis

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Study program: Pharmacy

Background: The aim of this diploma thesis was to evaluate the antimycotic activity of 34 substances prepared at the Department of Pharmaceutical Chemistry and Drug Control, Faculty of Pharmacy in Hradec Králové of the Charles University in Prague.

Methods: The substances were tested by the microdilution broth method at eight strains of yeasts and filamentous fungi. The tested substances were divided into five groups according to their chemical structure: benzylamino substituted derivates of pyrazine-2-carboxamide, aliphatic aminoderivates of pyrazine-2,3-dicarbonitrile, cyclic aminoderivates of pyrazine-2,3-dicarbonitrile, aliphatic aminoderivates of pyrazine -2-carboxamide, cyclic aminoderivates of pyrazine-2-carboxamide.

Results: The highest antimycotic activity was discovered in group of cyclic aminoderivates of pyrazine-2-carboxamide, especially in tested substances OJ101 and OJ103, which showed antimycotic activity to all of strains of yeast and filamentous fungi. On the other hand, substances of group of benzylamino substituted derivates of pyrazine-2-carboxamide showed no antimycotic activity. The most susceptible strain was *Trichophyton mentagrophytes* and the most resistant were strains *Candida tropicalis* and *Absidia corymbifera*.

Conclusions: To utilize our tested substances in a clinical practise, it is necessary to perform any other tests and studies to prove suficcient antimycotic effect.

Key words: yeast, filamentous fungi, antimycotic drugs, resistance, minimal inhibitory concentration